ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF AIR, PERMIT SECTION

RESPONSIVENESS SUMMARY

FOR THE
LAFARGE MIDWEST, INC.
CEMENT PLANT EXPANSION PROJECT
IN GRAND CHAIN, ILLINOIS

JULY 2007

SOURCE IDENTIFICATION NO.: 127855AAA
APPLICATION NO.: 05100026

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DECISION

On July 6, 2007, the Illinois Environmental Protection Agency (Illinois EPA) issued a Bureau of Air construction permit to Lafarge Midwest for a proposed expansion at its plant located at 2500 Portland Road in Grand Chain.

Copies of the documents can be obtained from the contact listed at the end of this document. The permits and additional copies of this document can also be obtained from the Illinois EPA website www.epa.state.il.us/public-notices/.

BACKGROUND

On March 2, 2007, the Illinois EPA, Bureau of Air received an application from Lafarge Midwest, Inc., requesting a permit to expand its Portland cement manufacturing operations at its plant in Grand Chain, Illinois. The expansion project will include the following activities:

- Installation of one new preheater/precalciner kiln system
- Shutdown of one of the two existing kilns (Kiln 2)
- Installation of a new finish mill
- Installation of a new rail cement loadout facilty
- Ancillary changes to material handling operations

The Illinois EPA is issuing a construction permit to authorize the expansion project. The permit identifies the applicable rules governing emissions from the plant, and establishes enforceable limitations on its emissions. The permit also establishes appropriate compliance procedures, including requirements for emissions testing, continuous emission monitoring, record-keeping, and reporting. The Permittee will be required to carry out these procedures on an ongoing basis to demonstrate that the plant is operating within the limitations established by the permit and that emissions are being properly controlled.

COMMENT PERIOD AND PUBLIC HEARING

The Illinois EPA Bureau of Air evaluates applications and issues permits for sources of emissions to the atmosphere. An air permit application must appropriately address compliance with applicable air pollution control laws and regulations before a permit can be issued. Following its initial technical review of Lafarge's application, the Illinois EPA Bureau of Air made a preliminary determination that the application met the standards for issuance of a construction permit and prepared a draft permit for public review and comment.

The public comment period began on March 28, 2007 with the publication of a notice in the Metropolis Planet on April 4 and 11**,** 2007. A public hearing was held on May 16, 2007, at the Metropolis Community Center to receive oral comments and answer questions regarding the application and draft air permit. The comment period closed on June 15, 2007, to receive written comments.

AVAILABILITY OF DOCUMENTS

The permit issued to Lafarge and this responsiveness summary are available on the Illinois Permit Database at www.epa.gov/region5/air/permits/ilonline.htm (please look for the documents under All Permit Records (sorted by name), PSD/Major NSR Records). Copies of these documents may also be obtained by contacting the Illinois EPA at the telephone numbers listed at the end of this document.

APPEAL PROVISIONS

The permit being issued for the proposed project grants approval to construct pursuant to the federal rules for Prevention of Significant Deterioration of Air Quality (PSD), 40 CFR 52.21. Accordingly, individuals who filed comments on the draft permit or participated in the public hearing may petition the U.S. Environmental Protection Agency (USEPA) to review the PSD provisions of the issued permit. In addition, as comments were submitted on the draft permit for the proposed project that requested a change in the draft permit, the issued permit does not become effective until after the period for filing of an appeal has passed. The procedures governing appeals are contained in the Code of Federal Regulations (CFR), "Appeal of RCRA, UIC and PSD permits," 40 CFR 124.19. If an appeal request will be submitted to USEPA by a means other than regular mail, refer to the Environmental Appeals Board website at www.epa.gov/eab/eabfaq.htm#3 for instructions. If an appeal request will be filed by regular mail, it should be sent on a timely basis to the following address:

U.S. Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board (MC 1103B)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460-0001

Telephone: 202/233-0122

QUESTIONS AND COMMENTS

1. What made Lafarge change its plans for expansion of the plant after receiving a construction permit in 2006 for an expansion project?

   Lafarge has indicated that the reason for its change in plans is a business decision driven by economic considerations. The projected costs of the original expansion project (i.e., the construction of two new kilns) escalated much more rapidly than expected, due to increases in the costs for steel and other materials. The current project, which involves construction of only one new kiln, will be less costly than the original project.

2. Will Lafarge be required to run its control systems for NOx year round or just during the ozone season?

The NOx emission control systems for the kilns must be operated year-round.

3. Global Warming is a problem that must be addressed by everyone. Since the Supreme Court decided that USEPA must regulate emissions of carbon dioxide (CO_2) and Congress is likely to pass new laws to control emissions of CO_2 and other greenhouse gases, what does the Illinois EPA plan to do to minimize emissions of CO_2 and other greenhouse gases? The Illinois EPA has to do a BACT analysis for CO_2 emissions. Lafarge and the Illinois EPA should be looking to the latest technology being used by other companies, especially companies in other countries that are leaders in curbing greenhouse gases, such as Germany. It is generally much less expensive and much more effective to include emission controls in the original construction of a source, rather than retrofitting controls later. Lafarge would be ahead of the game in any cap and trade program or carbon tax that would be put in place for greenhouse gases if it would plan to minimize those emissions now:

Being proactive on reducing emissions of greenhouse gases is clearly a sound approach. It is especially advisable for sources to consider future regulatory requirements for emissions of greenhouse gases in their current development plans given the work of the Illinois Climate Change Advisory Group, which is chaired by the Director of the Illinois EPA, Douglas Scott. In this regard, Lafarge is committed to reducing its CO_2 emissions as part of its corporate goal of sustainability. Lafarge has joined The World Wildlife Fund's Climate Saver Programme. As a corporation, Lafarge has made a commitment to by 2010 reduce its absolute gross emissions of CO_2 in industrialized countries to 10 % below 1990 levels and to reduce worldwide net emissions per ton of cement to 20 % below 1990 levels.[1]

In the United States, it is all but certain that the challenge of global warming will require a comprehensive regulatory approach, by Congress or a broad coalition of states, and the appropriate approach is presently the subject of political debate. The U.S. Supreme Court's decision in *Massachusetts et al. v. EPA* likely signals the development of CO_2 regulations by USEPA for automobiles and other mobile sources. This would also trigger regulation of CO_2 emissions from new and modified major stationary sources, if Congress does not adopt a more effective way to addresses CO_2 emissions from stationary sources, including Portland cement plants. Until such approaches are put into place by the appropriate authorities, attempts to force controls or compel individual action on global warming through conventional environmental permitting programs are capricious and, even if implemented, would probably provide only illusory benefits. It might also have a stifling effect on the continuing development and deployment of new more energy-efficient technology.

In this case, the issued permit does not impose conditions relating to the control or reduction of CO_2 emissions. In general, the comments do not support the imposition

[1] http://worldwildlife.org/climate/publications/CS_factsheets_web.pdf

of CO_2 emission controls or limits. The Illinois EPA is not a legislative or quasi-legislative body. Rather, it is a creature of statute and the responsibilities for administering a permit program are tied to applicable rules and regulations. Ultimately, the decision for issuing a permit is based on a demonstration by the applicant that the project will comply with the applicable environmental standards and criteria. Moreover, permitting is not a substitute for rule-making. While the commenter's desire to compel action by Lafarge is certainly understandable, the Illinois EPA is not in a position in this permit to dictate decisions about restraints on output or CO_2 offsets from other sources. The Illinois EPA also cannot dictate sequestration of CO_2, particularly when neither the technological nor policy challenges of sequestration have been resolved.

It should also be noted that in the absence of this proposed project, Portland cement will continue to be supplied by other existing plants. The development of new kilns generally acts to improve upon, albeit incrementally, the manner in which Portland cement is produced as a whole. The more efficient and better-controlled process of producing cement by the proposed new kiln will act to reduce emissions of other less efficient kilns.

4. How much additional CO_2 will this plant emit after the expansion?

With the expansion of the plant, annual CO_2 emissions would double, from about 1 million metric tons to 2 million metric tons. However, the emissions of CO_2 evaluated on a production basis, per ton of cement produced, would be about 20 percent lower from the new kiln. The emissions of CO_2 from Portland cement kilns have two sources, each of which contributes about half the emissions of CO_2. The first is calcination, i.e., the chemical conversion of limestone to lime (calcium carbonate to calcium oxide), accompanied by the release of CO_2. Calcination is fundamental to production of Portland cement and can only be reduced as suitable lime-rich byproducts are available and can substitute for some of the limestone feed to a kiln. Lafarge indicates that it has investigated the use of such materials but they are not currently available to allow a commitment to use of a certain amount of such materials. The second source of CO_2 from production of Portland cement is combustion of fuel in the kiln. The new, more efficient preheater/precalciner kiln will have dramatically lower use of fuel and thus emissions of CO_2 from fuel combustion than the existing kilns when considered on a per ton basis. As a result Lafarge indicates that there would be about a 20 percent reduction in the overall rate of CO_2 emission per ton of cement produced due to the improvements in energy efficiency.

5. How does this project fit into Governor Blagojevich's initiative to reduce emissions of greenhouse gases in Illinois?

The proposed project would generally be consistent with Governor Blagojevich's initiative. The project involves the replacement of an old kiln with a new kiln that is more energy efficient.

6. What are "other supplemental fuels," as mentioned in the Illinois EPA's project summary for the proposed plant?

Supplemental fuels are materials other than traditional fuels that have properties that make them suitable for use as fuel in the kilns at the plant and would substitute for some of the traditional fuels that would otherwise be used in the kilns. Waste tires are an example of a supplemental fuel that is currently used at the plant. If Lafarge wants to begin using other supplemental fuels, it will have to notify the Illinois EPA since a new or revised construction permit could be required to use specific supplemental fuels depending on whether their use would constitute a modification of the plant.

7. If Lafarge must notify the Illinois EPA if it wants to use supplemental fuels, as a new or revised permit could be required to address particular supplemental fuels, then the use of a supplemental fuel should be considered separately and should require a separate permit. A provision addressing "other supplemental fuels" should not be included in the permit.

Whether a separate construction permit would be required for use of a particular supplemental fuel would depend on the particular fuel and the ramifications of use of that fuel for emissions and operations at the plant. However, it is appropriate that this permit not directly prohibit the use of supplemental fuels. As part of its efforts to reduce emissions of greenhouse gases and generally enhance and maintain favorable economic conditions in Illinois, the State of Illinois is seeking to develop the use of biomass fuels, which are a renewable resource, and to generally improve utilization of resources, as this contributes to energy efficiency. The fact that the permit does not directly prohibit use of supplemental fuels does not nor can it shield Lafarge from applicable regulations and requirements that would apply as related to the emissions from use of particular fuels. It also does not have any effect on the applicability of other environmental regulations and requirements that would apply to and govern the use of particular supplemental fuels.

8. What supplemental fuels does Lafarge plan to use?

The only supplemental fuels that Lafarge has identified at this time are waste tires and used oil.

9. While use of tires as fuel in a kiln or boiler generally has emissions that are similar to those of coal, what about additional emissions testing for other pollutants that tires contain, such as hazardous pollutants, heavy metals and zinc, that can be found in tires? Testing should be required these pollutants when tires are burned.

The emissions from the kilns with waste tires used as a supplemental fuel are not expected to be very different than when only using commercial fuels. The combustion of fuel material in a cement kiln is very efficient. Differences in the levels of organic hazardous air pollutants in the emissions with the use of coal and petroleum coke and the use of coal and petroleum coke, supplemented with waste tires, cannot be meaningfully distinguished. This is shown by the results of emission testing of kilns

and other combustion units using tires as a supplemental fuel[2, 3] that, if anything, suggest use of waste tires acts to reduce emissions of many organic compounds.

Hazardous heavy metals are present at trace concentrations in both coal and tires. Meaningful differences in emissions are again not anticipated given the effectiveness of the baghouses controlling the particulate matter emissions from the kilns. The USEPA has addressed the issue of fuel composition during its rulemaking for the NESHAP for Portland cement plants. As reflected by the emission standards that were adopted, USEPA did not find that it was necessary to adopt NESHAP standards that addressed specific heavy metals, other than mercury. USEPA found that emissions of other heavy metals were adequately addressed with standards for particulate matter. With respect to mercury, waste tires are generally considered a low mercury fuel, like petroleum coke, as compared to coal.

The only pollutant that might meaningfully increase as the result of using waste tires in a cement kiln is zinc, which is not a hazardous air pollutant. Zinc is added to the rubber formulation in tires so that it constitutes about 2% of the weight of a rubber tire. However, zinc is emitted as particulate matter and should be readily controlled by the baghouses.

Since waste tires are currently used as supplemental fuel at the plant and this is expected to continue with the new kiln, emissions testing will be conducted while waste tires are being used so that any effect on emissions will be addressed in the test results. The issued permit specifies that testing for metals must include analysis for zinc.

10. How are waste tires stored at the plant?

At the present time, waste tires are stored in the enclosed trailers in which they are delivered to the plant. As a general matter, waste tires must be stored in accordance with 35 IAC Part 848, Management of Used and Waste Tires. These rules require that tires be stored in a manner that minimizes the risk of fire and eliminates the potential for mosquito infestation, which could carry the West Nile virus. The Illinois EPA conducts routine inspections of the tire storage area at the plant.

11. Could Lafarge possibly use biomass as a fuel?

The permit for the proposed plant would not prohibit use of biomass as a supplemental fuel in the kilns. Lafarge has indicated that it is investigating and will continue to investigate the possible use biomass in the kilns, as it would lower their CO_2 intensity as related to emissions of greenhouse gases. The actual use of biomass would depend upon having adequate quantities of suitable biomass material at a reasonable price. Accordingly, it is not realistic to expect that biomass will be used in any significant quantities in the kilns in the next few years.

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[2] *Burning Tires for Fuel and Tire Pyrolysis: Air Implications*, USEPA, December 1991, EPA-450/3-91-024

[3] *Air Emissions from Scrap Tire Combustion*, USEPA, October 1997, EPA-600/R-97-115

12. How is the use of supplemental fuel limited? How is the use of supplemental fuel tracked?

The use of supplemental fuel is limited by the emission limits established for the kilns by the permit. If new equipment would be installed or existing equipment would be modified to use particular supplemental fuels, the use of supplemental fuels would also be constrained by the plant's actual emissions, as the actual emissions would be the baseline or reference level from which to determine whether use of a proposed fuel material would result in a modification or major modification of the plant.

Usage of supplemental fuels is tracked as Lafarge must notify the Illinois EPA if new supplemental fuels are proposed for use. Lafarge must also keep records for the usage of each type of fuel in the kiln.

13. What refinery is the source of the petroleum coke used in the kilns?

Because the plant is located on the Ohio River, petroleum coke can be readily transported to the plant by barge from a number of different refineries. The particular refineries that supply coke to the plant can change from year to year as the availability and cost of petroleum coke from various refineries changes.

14. How much petroleum coke is Lafarge planning to use?

Lafarge indicates that petroleum coke would ideally make up most of the supply of traditional fuels to the kilns, but the amount would vary depending of the availability and cost of petroleum coke as compared to coal. Since Lafarge is currently using petroleum coke in the kilns, it will not have to notify the Illinois EPA when it is used.

15. Are increases to the sulfur content of petroleum coke anticipated now that refineries produce ultra low sulfur diesel and will be processing heavy crude?

Significant increases in the sulfur content of the petroleum coke are not anticipated due to changes in operations of refineries. In any case, the SO_2 emissions of the plant are limited independently of the sulfur content of the petroleum coke.

16. What is the source of chlorine that contributes to emissions of dioxins and furans from cement kilns? Does the chlorine come from the supplemental fuels used in a kiln?

Dioxin and furan emissions are potentially associated with normal operation of a cement kiln with chlorine provided by the trace levels of chlorine present in the limestone, fuels and other feed materials introduced into the kiln, independent of use of supplemental fuels.

17. The Illinois EPA has stated that emissions testing for emissions of hazardous air pollutants (HAPs), including dioxins and furans, will be performed on the schedule set by the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Portland Cement Plants, 40

CFR 63.1349(b). This frequency, i.e., every 30 months for dioxin/furans and every 5 years for other HAPs, is not sufficient to assure that the emission controls are doing an adequate job. Emissions testing should be required once a year, especially given the history of dioxin and furan emission exceedances.

The relevant provisions of the NESHAP are adequate to generally address the frequency of emission testing. The NESHAP also specifies operational practices that must be followed at a source between testing to demonstrate compliance with applicable emissions standards. With respect to emissions of dioxin/furan at Lafarge, noncompliance related to testing of Kiln 1 in 2002. This was followed by "additional" tests in early 2003 and November, 2004, which showed compliance, and testing was allowed to revert to a 30-month interval. If in the future, a kiln fails a test, the Illinois EPA will require additional testing of that kiln, as previously occurred for Kiln 1.

18. Has Kiln 1 been tested for emissions of dioxins and furans in 2007? Considering that dioxins and furans are highly toxic, the Illinois EPA should assure that the plant is not currently in violation for dioxins and furans before a permit is issued for an expansion.

Testing of Kiln 1 for emissions of dioxin and furans was conducted in March 2007 and showed compliance with the applicable standard. Lafarge is maintaining compliance with the standard with continuous monitoring of temperature in the ductwork before each baghouse. A key factor in the level of emissions of dioxin and furan from a kiln is post-combustion formation of these compounds, as can occur in the particulate matter control system for a kiln if operating in a particular range of temperature. Formation of dioxin and furan is minimized by operating the particulate matter control system below the temperature range for formation of dioxin and furan. Temperature monitoring is used to verify that this set temperature is not exceeded, indirectly ensuring that the dioxin/furans emission standard is met. Use of waste tires or plastic as a supplemental fuel in a kiln does not appear to be a factor for compliance with limits for emissions of dioxin and furan.

Incidentally, Lafarge plans to conduct additional testing of Kiln 1 in the summer of 2007 for emissions of dioxins and furans to demonstrate compliance with the NESHAP standard at a higher operating temperature at the inlet to the baghouse.

19. What action has USEPA been taking since the court decision in National Lime Association v. EPA on December 15, 2000, that determined that USEPA must regulate mercury emissions from Portland cement kilns, which the NESHAP standards for Portland cement plants originally adopted by USEPA did not do?

In response to this court decision and subsequent litigation, USEPA took action on December 20, 2006 to adopt NESHAP standards for mercury emissions from new and existing Portland cement kilns. For this purpose, a new kiln is a kiln for which construction or reconstruction commenced after December 2, 2005. For existing kilns, e.g., Kiln 1 and 2 at the Lafarge Grand Chain plant, use of fly ash as a raw material in the kiln is prohibited when the mercury content of the fly ash has been increased

through use of activated carbon or other sorbent, unless mercury emissions do not increase from baseline levels of emissions when such flyash is not being used. For new kilns mercury emissions are limited to no more than 41 microgram per dry standard cubic meter, unless mercury emissions are controlled with a wet scrubber with a liquid to gas ratio of 30 gallons per 1,000 actual cubic feet. USEPA has also announced that it will be further considering mercury standards for Portland cement plants and plans to complete this "reconsideration process by December 20, 2007.

Incidentally as part of this recent rulemaking, USEPA also adopted standards for emissions of Total Hydrocarbons (THC) from Portland cement kilns. Good combustion practices must be for implemented existing kilns. For a new kiln, a numerical standard is set for emissions of THC, accompanied by a requirement for continuous emissions monitoring.

20. Under the permit, how much mercury would the plant emit?

The plant would be expected to emit at most about 70 pounds of mercury per year based on the relevant USEPA emission factor. This is significantly less than would be allowed by the NESHAP standard that has been set by USEPA.

21. Considering that Illinois has a state-wide advisory for consumption of fish from the lakes, rivers and streams in Illinois because of mercury contamination, the Illinois EPA should require this plant to monitor and control its emissions of mercury. The majority of the bodies of water with the highest mercury levels in fish are located in the southern part of Illinois, where this plant is located.

Since USEPA's continuing work on NESHAP standards for mercury is anticipated to set a numerical mercury emission standard for existing Portland cement kilns, as discussed above, it would be a questionable use of discretionary authority to impose additional control requirements for mercury emissions at this plant. The Illinois EPA must presume that upon further consideration the USEPA will set an appropriate numerical NESHAP standards for mercury emissions from Portland cement plants. As these standards will apply to all cement plants in Illinois, they will be both more effective and more equitable than standards that are only applied to a single plant during permitting.

In the event that USEPA ultimately does not further consider standards for mercury emissions or does not adopt appropriate numerical mercury emissions standards for Portland cement plants, the Illinois EPA can initiate rulemaking before the Pollution Control Board to set appropriate standards statewide as a matter of state rule. This is what recently occurred for control of mercury emissions from coal-fired power plants.

22. On January 17, 2003, the USEPA issued Lafarge a request for certain information to determine whether its Grand Chain plant operated in compliance with the Clean Air Act and regulations thereunder. Lafarge provided the requested information but the USEPA has not issued any notice of violation. The USEPA's Enforcement & Compliance History Online

(ECHO) database indicates violations of the PSD regulations by Lafarge at its Grand Chain plant for the last 12 quarters. What is the status of USEPA's investigation into Lafarge's compliance with the PSD rules and USEPA's compliance investigations for other companies that produce Portland cement? Given the amount of time that has passed, the public has a right to know what USEPA has found and what it is doing about it!

The Illinois EPA is unable to offer information relative to these activities by the USEPA and these questions should be directed to the USEPA under the federal Freedom of Information Act. However, it should be recognized that information on ongoing compliance investigation and enforcement actions is exempt from public disclosure under both federal and state laws related to public access to information. If such information, which relates to possible litigation, were to be provided to the public, it would potentially undermine such efforts as the information would also be available to the sources that were under investigation, as well as to the public.

23. When did the Illinois EPA last inspect the Lafarge plant and what were the findings?

The Illinois EPA, Bureau of Air, last the inspected the Lafarge plant on March 6, 2007. The inspection did not identify any violations of applicable regulations.

24. Netting must be based on the historic baseline emissions plus the proposed increase, minus any *creditable* decreases. Illinois EPA seems to be wrongly assuming that any decreases are creditable. Emissions decreases are not creditable if the source was in violation and its allowable emissions were lower than their baseline emissions (i.e. the source was emitting more than it should have). At the public hearing in 2006 for the original expansion project, the Illinois EPA stated that it was not able to answer questions about violations. Without knowledge about violations, the Illinois EPA cannot be sure that the netting was done properly, and that the proposed project would not be a major modification subject to PSD for emissions of pollutants other than CO.

The Illinois EPA is not aware of any violations that would affect the netting exercise. At the previous public hearing in 2006, the Illinois EPA was not asked whether there were violations at the plant that would affect whether emission decreases would be creditable under the PSD rules. The Illinois EPA was asked a broad question about past violations at the plant. This question extended to violations that are not related to whether certain emissions decreases would be creditable for purposes of PSD, such as violations of NESHAP standards and permitting and other procedural requirements. Given the breadth of the question, Illinois EPA personnel at that public hearing were not able to answer the question at the hearing and the question was subsequently answered in the Responsiveness Summary prepared for the hearing.

Moreover, the issuance of this construction permit does not shield Lafarge from compliance with the PSD rules. If it is later determined that there have been violations that would affect the netting exercise prepared for the proposed project, appropriate action would have to be taken by Lafarge. This could entail a modification to the permit to correct the baseline and reduce permitted emissions from the expansion

project, assuming that a timely correction occurs before there is actually a significant increase in emissions. Otherwise, this expansion project would have to undergo after-the-fact PSD permitting for the pollutant(s) for which PSD has been triggered.

25. For an emissions decrease to be creditable for netting, the decrease in a pollutant has to be qualitatively the same as the increased emissions, for example, hourly vs. hourly emissions. Moreover, how can the Illinois EPA be assured that the emissions under the new permit will be the same if the plant is allowed to burn different fuels?

Portland cement plants operate around-the-clock so the timing of emissions decreases does not pose issues for creditability of decreases in the netting exercise. In addition, as many of the decreases in particulate matter emissions involve ground level emissions, which would have had a greater impact on local air quality than the emissions increase at the new kiln with its stack, the effect should be improvements in ambient air quality for particulate matter.

The increased in emissions from the new kiln will have the same qualitative characteristics as the emissions decreases. The chemical composition of the particulate matter emissions from different operations at a cement plant do not support distinctions between the particulate matter emissions based on qualitative characteristics. In this regard, other than for mercury, which USEPA has addressed separately, the USEPA has not established NESHAP standards that address specific metals present in particulate matter emissions from different operations at Portland cement plants, but simply set limits in terms of particulate matter. As already discussed, the use of supplemental fuels should not significantly affect the nature of emissions from the plant. If this is not the case, the effects of use of a particular supplemental fuel would have to be addressed in a new or revised permit, as has been generally recommended by this commenter.

26. Is continuous emissions monitoring required for SO_2 and NOx emissions? The increases in emissions of SO_2 and NOx that are being projected are just below the PSD significance threshold. How often will emissions records have to be reported?

Continuous monitoring for emissions of SO_2 and NOx is required on each kiln. In addition continuous monitoring for emissions of CO and opacity is also required. For the new kiln, continuous monitoring is also required for emissions of THC. Reports for this monitoring will have to be submitted to the Illinois EPA on a quarterly basis, with detailed monitoring records kept at the plant.

27. What specific practices will be performed to keep particulate matter emissions down? How will those practices be monitored and reported?

Fabric filters or baghouses will be used for all intermediate finish product handling, water spray for all raw materials (if inherent moisture content is insufficient), partial enclosure for transfer points and most significantly, roadways will be sprayed with water or otherwise treated to control fugitive dust.

Periodic opacity monitoring will be required on baghouses in accordance with the NESHAP. For roadways, the implementation of dust control measures must be recorded. In the absence of deviations, particulate matter emissions must be reported annually, calculated based on operating records for vehicle traffic, records for implementation of dust control practices, and applicable emissions factors.

28. The proposed project includes a new rail loadout facility and rail yard, and upgrades to the existing barge/dock facilities. What material handling procedures and storage systems will be used to make sure that the increased amounts of materials do not result in increased fugitive emissions?

All loadout facilities, including barge/dock loadout, will be controlled by baghouses. The rail yard will only handle totally enclosed rail cars, so dust should not normally be emitted from operations at the rail yard.

29. The permit should set limits for CO emissions whose averaging times are the same as the averaging times of the National Ambient Air Quality Standards (NAAQS) for CO, i.e., a limit that applies on a 1-hour average and a limit that applies on an 8-hour average.

The averaging times for the BACT limits for CO emissions for this project do not have to correspond with the average times of the relevant NAAQS. For the proposed project, BACT limits for CO are set that apply on an 8-hour average and an annual average. The 8-hour BACT limit, which parallels the 8-hour NAQQS for CO, is also more than adequate to protect the 1-hour NAAQS. The air quality analysis for the proposed project showed a maximum hourly impact for CO of 304 µg/m^3, as compared to the NAAQS of 40,000 µg/m^3.

30. What does the Illinois EPA consider to be the Best Available Control Technologies (BACT) for Portland cement manufacturing plants for PSD pollutants other than CO?

The Illinois EPA has determined that BACT for emissions of CO from the new kiln that is part of the proposed project is the use of good combustion practices. The Illinois EPA has not made a determination of BACT for emissions of other PSD pollutants since the project is not a major modification for other PSD pollutants. As a general matter, the Illinois EPA makes BACT determinations, which are case-by-case determinations, for particular projects. The Illinois EPA does not make BACT determinations for projects or pollutants for which a requirement for BACT is not triggered. Information on recent BACT determinations for Portland cement plants made by other permitting authorities is available on the internet from USEPA's *RACT/BACT/LAER Clearinghouse*.

31. How far away is the plant from the Maximum Achievable Control Technology (MACT) for various pollutants, as established by the NESHAP, 40 CFR 63, Subpart LLL?

Emission testing conducted for the plant indicates that emission units comply with NESHAP standards with a substantial margin of compliance. For example, emissions testing in November 2004 indicated that dioxin/furans emissions of Kiln 1 and Kiln 2 were 12% and 9 %, respectively, of the NESHAP standard.

FOR ADDITIONAL INFORMATION

Questions about the public comment period and permit decision should be directed to:

Bradley Frost, Community Relations Coordinator
Illinois Environmental Protection Agency
Office of Community Relations
1021 North Grand Avenue, East
P.O. Box 19506
Springfield, Illinois 62794-9506

217-782-7027 Desk line
217-782-9143 TDD
217-524-5023 Facsimile

brad.frost@epa.state.il.us